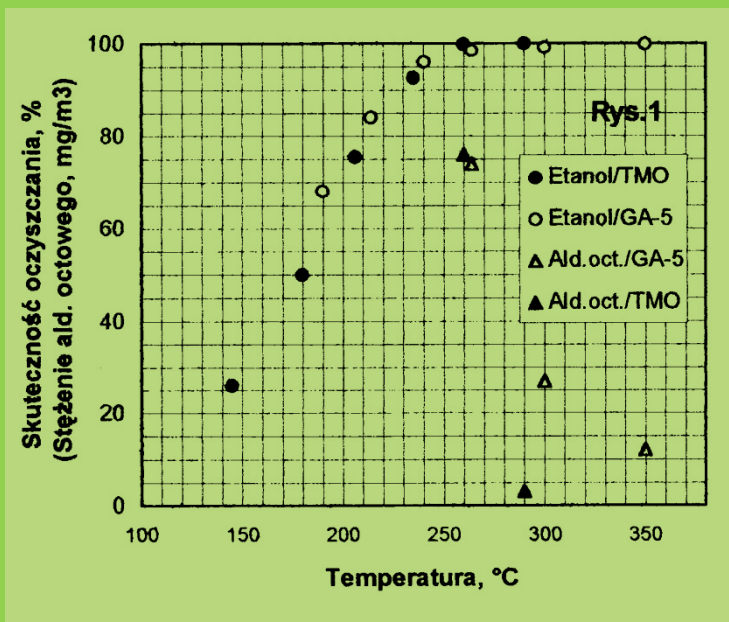
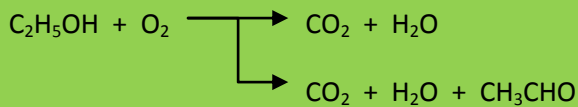


# Metal Oxide Catalyst TMO

Metal Oxide Catalyst is designer for catalytic combustion of organic compounds, in particular the oxygen and nitro gen containing ones.

Catalytic oxidation of organic compounds containing oxygen like alcohols, ketones, esters or organic acids leads to formation of CO<sub>2</sub>, H<sub>2</sub>O and products of partial oxidation. For ex ample acetaldehyde may appear in the products of etyl alkohol oxidation :

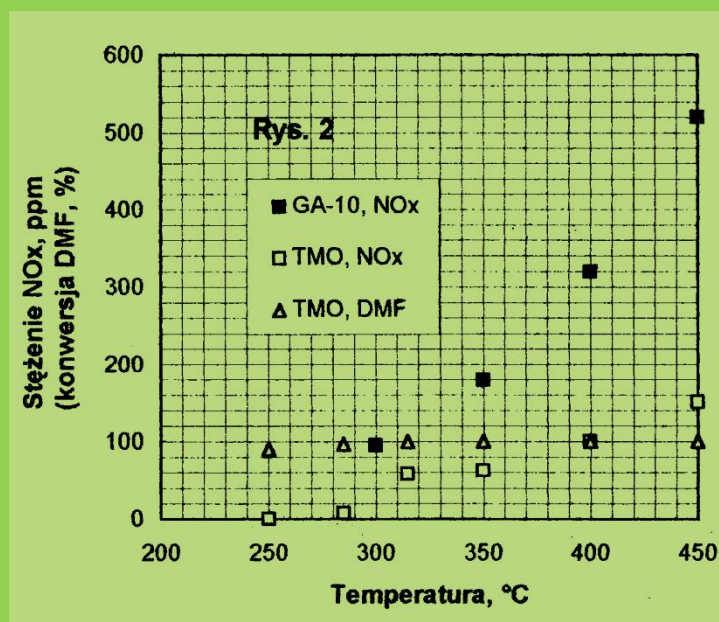


Both scientific research and industrial practice showed that relatively high ratio of acetaldehyde is formed on platinum catalyst (reaction 1 and 2 proceed in parallel), whereas reaction of ethanol oxidation goes mainly according to scheme 1 on metal oxide catalyst

Catalytic properties of platinum and metal oxide actalysts in ethanol oxidation are compared in Figure 1

Catalytic oxydation of the nitro gen containing compounds leads to formation of CO<sub>2</sub>, H<sub>2</sub>O, N<sub>2</sub>,and nitro gen oxides, NO<sub>x</sub> (NO, NO<sub>2</sub>).

It is known that platinum catalysts oxidize organic nitro gen to nitro gen oxide with a high re action field. Harmless molecular nitrogen, N<sub>2</sub> is fordem maliny on TMO catalyst (Fig.2).



## Application

Industrial processes in which organic compounds, particularly those which contain oxygen and/or nitrogen are emitted to the atmosphere.

Attention: organic compounds should not contain phosphorus or sulphur. Catalyst is insensitive to chlorine containing compounds at low concentration.

The choice of a catalyst to a Niven catalytic combustion installation depends on individual process conditions.

## Technical data

- content of active phase: 5%
- catalyst support:  $\gamma$  - Al<sub>2</sub>O<sub>3</sub> balls of 4 – 8mm lub 2 – 5mm diameter
- bulk density: 760 – 840kg/m<sup>3</sup> lub 660 – 720kg/m<sup>3</sup>
- G.H.S.V.: 2500 – 10000h<sup>-1</sup>
- working temperature: 300 - 500°C depending on G.H.S.V.
- conversion of organic compounds: 90 – 98% (depending on impurity type)
- maximum working temperature: 550°C
- guaranteed time of work: 1 – 2 years (depending on process conditions)

## Limitations

- Exhaust gases should not contain mechanical impurities settling on the surface of catalyst balls like dusts, aerosols, pigments, metal particles
- continuous work of the catalyst at the temperature over 550°C is not recommended

## Warranty

- warranty is issued after obtaining the precise specification of All organic substances present in purified gases

## Terms of delivery

- time of delivery of a batch of the catalyst up to 2000 kg – 30 days after the payment of 30% of the price of the ordered catalyst
- orders with the specification of the payment conditions should be sent to:

**„KATALIZATOR” Ltd.**

**30 -435 Kraków, ul. Torowa 3s**

Tel/fax 12/4251743, 12/4251343

Tel.kom. +48 601 486 343

e-mail: [katalizator@interia.pl](mailto:katalizator@interia.pl)

[www.katalizator.net.pl](http://www.katalizator.net.pl)